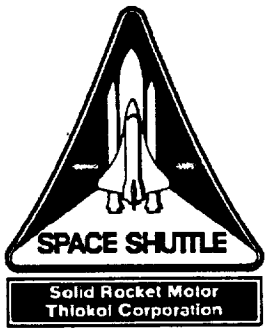
TWR-60699



Appendix B
Case, Seals, and Joints PFORs

Final Postflight Hardware Evaluation Report 360T025 (RSRM-25, STS-46)

March 1993

Prepared for:

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GEORGE C. MARSHALL SPACE FLIGHT CENTER
MARSHALL SPACE FLIGHT CENTER, ALABAMA 35812

Contract No.	**NAS8-38100**
DR No.	**4-23**
WBS No.	**4C601-04-01**
ECS No.	**SS4768**

Thiokol CORPORATION
SPACE OPERATIONS

P.O. Box 707, Brigham City, Utah 84302-0707 (801) 863-3511

CASE, SEALS, AND JOINTS REQUIRED PFOR LIST

PFOR #	Title	Side	Joint or Location	Final Report Page Number
B–2	S&A Device (Barrier-Booster and Environmental Seal Region) Condition	Left	S&A	B–1
B–7	S&A Rotor Shaft O-ring Condition (Detailed)	Left	S&A	B–2
B–1	Leak Check Plug/SII and Port Condition (At Removal)	Left	S&A 126°	B–3
B–4	Leak Check Plug/SII Condition (Detailed)	Left	S&A 126°	B–4
B–6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	S&A 126°	B–5
B–1	Leak Check Plug/SII and Port Condition (At Removal)	Left	S&A 306°	B–6
B–4	Leak Check Plug/SII Condition (Detailed)	Left	S&A 306°	B–7
B–6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	S&A 306°	B–8
B–1	Leak Check Plug/SII and Port Condition (At Removal)	Left	18° SII	B–9
B–4	Leak Check Plug/SII Condition (Detailed)	Left	18° SII	B–10
B–6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	18° SII	B–11
B–1	Leak Check Plug/SII and Port Condition (At Removal)	Left	198° SII	B–12
B–4	Leak Check Plug/SII Condition (Detailed)	Left	198° SII	B–13
B–6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	198° SII	B–14

(Note: Clarification forms will be inserted after the required PFOR in the Final Report. The clarification form page number will be the same as the required PFOR Final Report page number appended by a sequential alphabetic extension.)

CASE, SEALS, AND JOINTS REQUIRED LIST (Cont.)

PFOR #	Title	Side	Joint or Location	Final Report Page Number
B-3	Internal Nozzle Joint Condition	Left	Nozzle Joint #2	B-15
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Left	Nozzle Joint #2	B-16
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Left	Nozzle Joint #2	B-17
B-4	Leak Check Plug/SII Condition (Detailed)	Left	Nozzle Joint #2	B-18
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	Nozzle Joint #2	B-19
B-3	Internal Nozzle Joint Condition	Left	Nozzle Joint #3	B-20
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Left	Nozzle Joint #3	B-21
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Left	Nozzle Joint #3	B-22
B-4	Leak Check Plug/SII Condition (Detailed)	Left	Nozzle Joint #3	B-23
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	Nozzle Joint #3	B-24
B-3	Internal Nozzle Joint Condition	Left	Nozzle Joint #4	B-25
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Left	Nozzle Joint #4	B-26
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Left	Nozzle Joint #4	B-27
B-4	Leak Check Plug/SII Condition (Detailed)	Left	Nozzle Joint #4	B-28
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	Nozzle Joint #4	B-29

(Note: Clarification forms will be inserted after the required PFOR in the Final Report. The clarification form page number will be the same as the required PFOR Final Report page number appended by a sequential alphabetic extension.)

CASE, SEALS, AND JOINTS REQUIRED LIST (Cont.)

PFOR #	Title	Side	Joint or Location	Final Report Page Number
B-3	Internal Nozzle Joint Condition	Left	Nozzle Joint #5	B-30
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Left	Nozzle Joint #5	B-31
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Left	Nozzle Joint #5	B-32
B-4	Leak Check Plug/SII Condition (Detailed)	Left	Nozzle Joint #5	B-33
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Left	Nozzle Joint #5	B-34
B-8	Packing With Retainer Condition (Detailed)	Left	Nozzle Fixed Housing	B-35
B-9	Case Factory Joint Condition	Left	Forward Dome	B-36
B-9	Case Factory Joint Condition	Left	Forward	B-37
B-9	Case Factory Joint Condition	Left	Forward Center	B-38
B-9	Case Factory Joint Condition	Left	Aft Center	B-39
B-9	Case Factory Joint Condition	Left	ET Attach/ Stiffener	B-40
B-9	Case Factory Joint Condition	Left	Stiffener/ Stiffener	B-41
B-9	Case Factory Joint Condition	Left	Aft Dome	B-42

(Note: Clarification forms will be inserted after the required PFOR in the Final Report. The clarification form page number will be the same as the required PFOR Final Report page number appended by a sequential alphabetic extension.)

CASE, SEALS, AND JOINTS REQUIRED LIST (Cont.)

PFOR #	Title	Side	Joint or Location	Final Report Page Number
B-2	S&A Device (Barrier-Booster and Environmental Seal Region) Condition	Right	S&A	B-43
B-7	S&A Rotor Shaft O-ring Condition (Detailed)	Right	S&A	B-44
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	S&A 126°	B-45
B-4	Leak Check Plug/SII Condition (Detailed)	Right	S&A 126°	B-46
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	S&A 126°	B-47
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	S&A 306°	B-48
B-4	Leak Check Plug/SII Condition (Detailed)	Right	S&A 306°	B-49
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	S&A 306°	B-50
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	18° SII	B-51
B-4	Leak Check Plug/SII Condition (Detailed)	Right	18° SII	B-52
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	18° SII	B-53
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	198° SII	B-54
B-4	Leak Check Plug/SII Condition (Detailed)	Right	198° SII	B-55
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	198° SII	B-56

(Note: Clarification forms will be inserted after the required PFOR in the Final Report. The clarification form page number will be the same as the required PFOR Final Report page number appended by a sequential alphabetic extension.)

CASE, SEALS, AND JOINTS REQUIRED LIST (Cont.)

PFOR #	Title	Side	Joint or Location	Final Report Page Number
B-3	Internal Nozzle Joint Condition	Right	Nozzle Joint #2	B-57
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Right	Nozzle Joint #2	B-58
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	Nozzle Joint #2	B-59
B-4	Leak Check Plug/SII Condition (Detailed)	Right	Nozzle Joint #2	B-60
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	Nozzle Joint #2	B-61
B-3	Internal Nozzle Joint Condition	Right	Nozzle Joint #3	B-62
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Right	Nozzle Joint #3	B-63
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	Nozzle Joint #3	B-64
B-4	Leak Check Plug/SII Condition (Detailed)	Right	Nozzle Joint #3	B-65
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	Nozzle Joint #3	B-66
B-3	Internal Nozzle Joint Condition	Right	Nozzle Joint #4	B-67
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Right	Nozzle Joint #4	B-68
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	Nozzle Joint #4	B-69
B-4	Leak Check Plug/SII Condition (Detailed)	Right	Nozzle Joint #4	B-70
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	Nozzle Joint #4	B-71

(Note: Clarification forms will be inserted after the required PFOR in the Final Report. The clarification form page number will be the same as the required PFOR Final Report page number appended by a sequential alphabetic extension.)

CASE, SEALS, AND JOINTS REQUIRED LIST (Cont.)

PFOR #	Title	Side	Joint or Location	Final Report Page Number
B-3	Internal Nozzle Joint Condition	Right	Nozzle Joint #5	B-72
B-5	Large Diameter (Joint) O-ring Condition (Detailed)	Right	Nozzle Joint #5	B-73
B-1	Leak Check Plug/SII and Port Condition (At Removal)	Right	Nozzle Joint #5	B-74
B-4	Leak Check Plug/SII Condition (Detailed)	Right	Nozzle Joint #5	B-75
B-6	Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)	Right	Nozzle Joint #5	B-76
B-8	Packing With Retainer Condition (Detailed)	Right	Nozzle Fixed Housing	B-77
B-9	Case Factory Joint Condition	Right	Forward Dome	B-78
B-9	Case Factory Joint Condition	Right	Forward	B-79
B-9	Case Factory Joint Condition	Right	Forward Center	B-80
B-9	Case Factory Joint Condition	Right	Aft Center	B-81
B-9	Case Factory Joint Condition	Right	ET Attach/ Stiffener	B-82
B-9	Case Factory Joint Condition	Right	Stiffener/ Stiffener	B-83
B-9	Case Factory Joint Condition	Right	Aft Dome	B-84

(Note: Clarification forms will be inserted after the required PFOR in the Final Report. The clarification form page number will be the same as the required PFOR Final Report page number appended by a sequential alphabetic extension.)

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-2

S&A Device (Barrier-Booster and Environmental Seal Regions) Condition

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG, 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

	Yes	No	Comment #
Barrier-Booster Bore and Rotor Observations:			
A. Heat Affected or Eroded O-ring (In Groove)?		✓	
B. Soot To or Past O-rings?	✓		1
C. Heat Affected Metal?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Metal Damage?		✓	
F. Excessive or No Grease?		✓	
G. Corrosion?		✓	
H. Foreign Material?		✓	
I. Teflon Retainer Damage?		✓	
Environmental Seal Region Observations:			
J. Environmental O-ring Assembly Damage (Visible Without Magnification)?		✓	
K. Foreign Material?		✓	

Notes / Comments

Special Issues 3.2.3.3 → NO CORROSION WAS OBSERVED ON ROTOR DETENT BALL SPRING.

1. TYPICAL SOOT OBSERVED UP TO, BUT NOT PAST, PRIMARY O-RING #1.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-7
S&A Rotor Shaft O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92
Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN		
Location: S&A Device Barrier-Booster Rotor Shaft		

	Yes	No	Comment #
Forward Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	
Aft Primary O-ring Observations:			
C. Heat Affected or Eroded O-ring?		✓	
D. O-ring Defects/Damage?		✓	
Forward Secondary O-ring Observations:			
E. Heat Affected or Eroded O-ring?		✓	
F. O-ring Defects/Damage?		✓	
Aft Secondary O-ring Observations:			
G. Heat Affected or Eroded O-ring?		✓	
H. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

Location: 126-Degree Barrier-Booster Bore

	Yes	No	Comment #
Leak Check Plug Observations:			
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Preliminary PFAR(s)? _____ Yes ✓ No Preliminary PFAR Number(s): _____

Clarification Form(s)? _____ Yes ✓ No Clarification Form Page No.(s): _____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

Location: 126-Degree Barrier-Booster Bore

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92
Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN		
Location: 126-Degree Barrier-Booster Bore		

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1

Leak Check Plug/Sll and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92
Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MCREAN		
Location: 306-Degree Barrier-Booster Flange		

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/Sil Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

Location: 306-Degree Barrier-Booster Flange

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6
Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

Location: 306-Degree Barrier-Booster Flange

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92
Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN		
Location: 18-Degree SII		

SII Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on SII?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
SII Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?	✓		1
O. Heat Affected Metal?		✓	
P. Obstructed Leak Check Through Hole?		✓	

Notes / Comments

1. TYPICAL GALLING ON LAND BETWEEN PRIMARY AND SECONDARY SEALING SURFACES. GALLING IS DUE TO SEALING WASHER WELD.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

Location: 18-Degree SII

SII Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and SII?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

Location: 18-Degree SII

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?	____	✓	____
B. O-ring Defects/Damage?	____	✓	____
Secondary O-ring Observations:			
C. Heat Affected or Eroded O-ring?	____	✓	____
D. O-ring Defects/Damage?	____	✓	____

Notes / Comments

Special Issues 3.2.2.1 action; Evaluated SII O-Rings (P/N 1450228-47) Per Section 3.4.2

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92
Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN		
Location: 198-Degree SII		

SII Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on SII?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
SII Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?	✓		1
O. Heat Affected Metal?		✓	
P. Obstructed Leak Check Through Hole?		✓	

Notes / Comments

1. Typical balling due to sealing washer weld on the land between Primary and Secondary sealing surfaces.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92

Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HYER, M. LYON, T. MORGAN

Location: 198-Degree SII

SII Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and SII?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6
Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 13 AUG 92
Assessment Engineer(s)/Inspector(s): R. BRIGGS, G. HAYER, M. LYON, T. MORGAN		
Location: 198-Degree SII		

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?	____	✓	____
B. O-ring Defects/Damage?	____	✓	____
Secondary O-ring Observations:			
C. Heat Affected or Eroded O-ring?	____	✓	____
D. O-ring Defects/Damage?	____	✓	____

Notes / Comments

Special Issues 3.2.2.1 action; evaluated SII O-Ring (P/N 1U50228-47) Per Section 3.4.2

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Joint: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?	✓		(1)
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?		✓	
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?	✓		(2)
I. Metal Damage?		✓	

Notes / Comments

(1) Soot to primary O-ring @ 44-46, ~~250-264~~ 198-228 (intermittent) 162-174, 272-274.
Typical scalloped sooting noted (up to the middle of the bolts)

(2) Light/medium corrosion corresponding to soot pattern on mating part.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5

Large Diameter (Joint) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 9/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Joint: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Carecht

Location: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway 37 in-lb
Running 8 in-lb

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6
Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garacht

Location: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? _____ Yes ✓ No Preliminary PFAR Number(s): _____

Clarification Form(s)? _____ Yes ✓ No Clarification Form Page No.(s): _____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Joint: Nose Inlet-to-Throat (Joint #3)

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?		✓	
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?		✓	
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?	✓		①
I. Metal Damage?		✓	

Notes / Comments

Special Issues 3.2.3.2 No metal damage or corrosion except that which is noted in ①.

① Light/medium corrosion on housing intermittent full circumference

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5
Large Diameter (Joint)-O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92
Assessment Engineer(s)/Inspector(s): Diane Barecki		
Joint: Nose Inlet-to-Throat (Joint #3)		

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/Sll and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92
Assessment Engineer(s)/Inspector(s): Diane Garecht		
Location: Nose Inlet-to-Throat (Joint #3)		

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway 38 in lb
Running 12 in lb

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Throat (Joint #3)

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Throat (Joint #3)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 9/14/92
Assessment Engineer(s)/Inspector(s): Diane Garecht		
Joint: Throat-to-Forward Exit Cone (Joint #4)		

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?		✓	
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?	(✓)		
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?		✓	
I. Metal Damage?			

Notes / Comments
Special Issues 3.2.3.2

~~Light to medium intermittent corrosion on throat support housing (aft surface). No metal damage noted on throat support housing fwd & aft seal surfaces with the following exceptions:~~
~~Burnishing on fwd seal surface (throat) @ 130 deg (0.1 circum x 0.1 radial) and 133 deg (0.63 circum x 0.1 radial)~~
~~RTV to primary O-45, 83-105 & 173-300 deg~~

Spec. Issue 3.2.3.2.
Light to medium intermittent corrosion on throat support housing (aft surface). No metal damage noted on throat support housing fwd & aft seal surfaces with the following exceptions:
Burnishing on fwd seal surface (throat) @
130 deg (0.1 circum x 0.1 radial) and
133 deg (0.63 circum x 0.1 radial)

RTV to primary 0-45, 83-105 & 173-300 deg

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5
Large Diameter (Joint) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/14/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Joint: Throat-to-Forward Exit Cone (Joint #4)

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 8/14/92

Assessment Engineer(s)/Inspector(s): Diane Garrett

Location: Throat-to-Forward Exit Cone (Joint #4)

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway 40 in-lb
Running 10-14 in-lb.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/14/92
Assessment Engineer(s)/Inspector(s): Diane Harrell		
Location: Throat-to-Forward Exit Cone (Joint #4)		

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 8/14/92

Assessment Engineer(s)/Inspector(s): Diane Garrett

Location: Throat-to-Forward Exit Cone (Joint #4)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 17 Aug 1992
Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon		
Joint: Aft End Ring-to-Fixed Housing (Joint #5)		

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?		✓	
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?		✓	
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?	✓		1
I. Metal Damage?		✓	

Notes / Comments

Special Issues 3.2.3.1 - No metal damage or rounded chamfers observed on bolt through hole spotfaces.

1- Medium to heavy corrosion observed on I.D. lip of aft end ring intermittently full circumference.

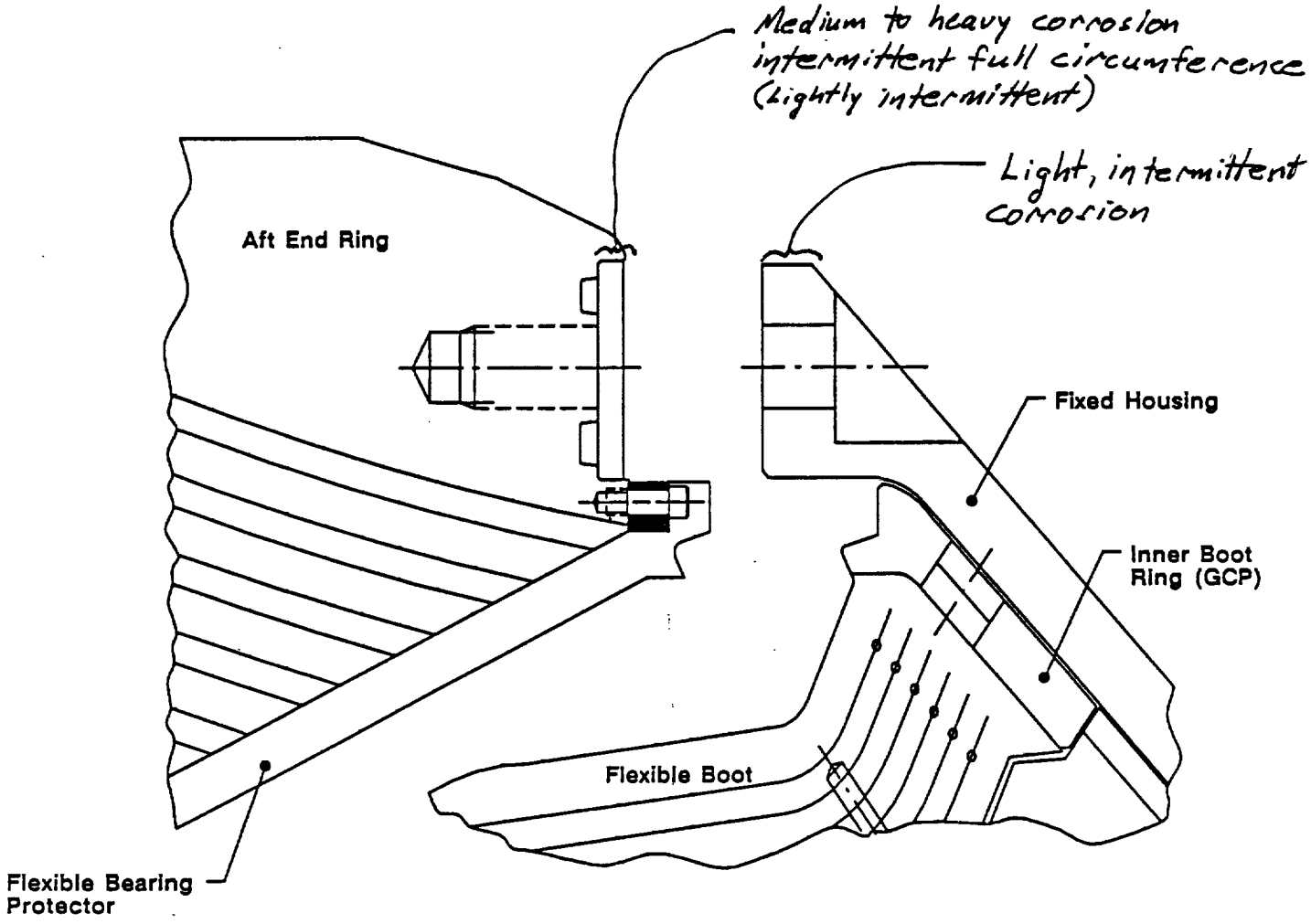
Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ✓ Yes ____ No Clarification Form Page No.(s): B-30A

Aft End Ring-to-Fixed Housing Joint (Joint #5) Clarification Form

Motor No.: 360T025	Side: ☒ Left (A) ☐ Right (B)	Date: 17 Aug 1992
Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon		

Sketch Observations Below (include locations and sizes of sketched features):



Corresponding Comment Number(s): 1

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5
Large Diameter (Joint) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 17 Aug 1992

Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon

Joint: Aft End Ring-to-Fixed Housing (Joint #5)

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Left (A)	Date: 17 Aug 1992
Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon		
Location: Aft End Ring-to-Fixed Housing (Joint #5)		

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway Torque = 35 in-lb
Running Torque = 12 in-lb

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 17 Aug 1992

Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon

Location: Aft End Ring-to-Fixed Housing (Joint #5)

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 17 Aug 1992

Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon

Location: Aft End Ring-to-Fixed Housing (Joint #5)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-8
Packing With Retainer Condition (Detailed)

Motor No.: 360T025	Side: Left (A)	Date: 17 Aug 1992
Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon		
Joint: Aft End Ring-to-Fixed Housing (Joint #5)		

Packing With Retainer Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Seal or Retainer?		✓	
B. Seal or Retainer Damage/Defects?	✓		1
C. Corrosion?		✓	

Notes / Comments

Special Issues 3.2.3.1 – No metal damage or rounded chamfers observed on bolt through hole spotfaces.

1 – Typical disassembly damage to ~~Ea~~ all 72 Packing with Retainer elastomers. (Rubber element).

Preliminary PFAR(s)? _____ Yes ✓ No Preliminary PFAR Number(s): _____

Clarification Form(s)? _____ Yes ✓ No Clarification Form Page No.(s): _____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 11-23-92
Assessment Engineer(s)/Inspector(s): ERIC HAY		
Factory Joint: Forward Dome		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		✓	#1
B. Heavy Corrosion in Joint?		✓	
C. Heavy Corrosion in Leak Check Port?		✓	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

#1 PRI-ORING HAS WATER KNIFE DAMAGE AND WAS BROKE AT 250°. O-RING DID NOT FALL OUT OF CLEVIS UPON DISASSEMBLY AND 0° AND 90° WERE MARKED.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9

Case Factory Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 11-23-92

Assessment Engineer(s)/Inspector(s): DARRYL MARBLE

Factory Joint: Forward

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		✓	#1
B. Heavy Corrosion in Joint?		✓	
C. Heavy Corrosion in Leak Check Port?		✓	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

#1 PRIMARY ORING HAS WATER KNIFE DAMAGE INTERMITANTLY 360° AROUND ORING AND IS CUT AT 321°, ORING DID NOT FALL OUT OF CLEVIS UPON DISASSEMBLY AND 0° AND 90° WERE MARKED WITH TAPE, ORING CUT IN HALF AT 321°

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 2-15-93

Assessment Engineer(s)/Inspector(s): WADE CARDIN

Factory Joint: Forward Center

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		X	
B. Heavy Corrosion in Joint?		X	
C. Heavy Corrosion in Leak Check Port?		X	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1 NONE

Preliminary PFAR(s)? ____ Yes X No Preliminary PFAR Number(s): N/A

Clarification Form(s)? ____ Yes X No Clarification Form Page No.(s): N/A

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: RSRM 25	Side: ☒ Left (A) ☐ Right (B)	Date: 02.01.93

Assessment Engineer(s)/Inspector(s): Schenck

Factory Joint:
- ☐ Forward Dome
- ☐ Forward
- ☐ Forward Center
- ☒ Aft Center
- ☐ ET Attach/Stiffener
- ☐ Stiffener/Stiffener
- ☐ Aft Dome

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		✓	
B. Heavy Corrosion in Joint?		✓	
C. Heavy Corrosion in Leak Check Port?		✓	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or gray Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

LIGHT FRETTING LESS THAN 0.001" WAS NOTED INTERMITTENLY ON THE TANG

Preliminary PFAR(s)? ____ Yes X No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes X No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9

Case Factory Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 9 NOV 1992

Assessment Engineer(s)/Inspector(s): Darin Birch

Factory Joint: ET Attach/Stiffener

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		X	
B. Heavy Corrosion in Joint?		X	
C. Heavy Corrosion in Leak Check Port?		X	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

Preliminary PFAR(s)? _____ Yes X No Preliminary PFAR Number(s): _____

Clarification Form(s)? _____ Yes X No Clarification Form Page No.(s): _____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 11-09-92
Assessment Engineer(s)/Inspector(s): Darin Birch		
Factory Joint: Stiffener/Stiffener		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		✓	
B. Heavy Corrosion in Joint?		✓	
C. Heavy Corrosion in Leak Check Port?		✓	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Left (A)	Date: 11-06-92
Assessment Engineer(s)/Inspector(s): DARIN Birch		
Factory Joint: Aft Dome		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		✓	
B. Heavy Corrosion in Joint?		✓	
C. Heavy Corrosion in Leak Check Port?		✓	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

Preliminary PFAR(s)? _____ Yes ✓ No Preliminary PFAR Number(s): _____

Clarification Form(s)? _____ Yes ✓ No Clarification Form Page No.(s): _____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-2

S&A Device (Barrier-Booster and Environmental Seal Regions) Condition

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan

	Yes	No	Comment #
Barrier-Booster Bore and Rotor Observations:			
A. Heat Affected or Eroded O-ring (In Groove)?		✓	
B. Soot To or Past O-rings?	✓		1
C. Heat Affected Metal?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Metal Damage?		✓	
F. Excessive or No Grease?		✓	
G. Corrosion?		✓	
H. Foreign Material?		✓	
I. Teflon Retainer Damage?		✓	
Environmental Seal Region Observations:			
J. Environmental O-ring Assembly Damage (Visible Without Magnification)?		✓	
K. Foreign Material?		✓	

Notes / Comments

Special Issues 3.2.3.3 → NO CORROSION WAS OBSERVED ON ROTOR DETENT BALL SPRING.

1.) Typical Soot up to Forward Primary O-Ring, but Not past.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-7
S&A Rotor Shaft O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, L. Hyer, M. Lyon, T. Morgan

Location: S&A Device Barrier-Booster Rotor Shaft

	Yes	No	Comment #
Forward Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	
Aft Primary O-ring Observations:			
C. Heat Affected or Eroded O-ring?		✓	
D. O-ring Defects/Damage?		✓	
Forward Secondary O-ring Observations:			
E. Heat Affected or Eroded O-ring?		✓	
F. O-ring Defects/Damage?		✓	
Aft Secondary O-ring Observations:			
G. Heat Affected or Eroded O-ring?		✓	
H. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1

Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92
Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan		
Location: 126-Degree Barrier-Booster Bore		

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Preliminary PFAR(s)? _____ Yes ✓ No Preliminary PFAR Number(s): _____

Clarification Form(s)? _____ Yes ✓ No Clarification Form Page No.(s): _____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan

Location: 126-Degree Barrier-Booster Bore

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, L. Hyer, M. Lyon, T. Morgan

Location: 126-Degree Barrier-Booster Bore

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, B. Hyer, M. Lyon, T. Morgan

Location: 306-Degree Barrier-Booster Flange

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan

Location: 306-Degree Barrier-Booster Flange

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, B. Hyer, M. Lyon, T. Morgan

Location: 306-Degree Barrier-Booster Flange

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan

Location: 18-Degree SII

SII Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on SII?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
SII Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?	✓		1
O. Heat Affected Metal?		✓	
P. Obstructed Leak Check Through Hole?		✓	

Notes / Comments

#1) Typical balling due to the SII Washer weld on the land between the Primary and Secondary Sealing Surfaces.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan

Location: 18-Degree SII

SII Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and SII?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, L. Hyer, M. Lyon, T. Morgan

Location: 18-Degree SII

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	
Secondary O-ring Observations:			
C. Heat Affected or Eroded O-ring?		✓	
D. O-ring Defects/Damage?		✓	

Notes / Comments

Special Issues 3.2.2.1 action; evaluated SII O-Rings (P/N 1450228-47) Per Section 3.4.2

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92
Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan		
Location: 198-Degree SII		

SII Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on SII?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
SII Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?	✓		1
O. Heat Affected Metal?		✓	
P. Obstructed Leak Check Through Hole?		✓	

Notes / Comments

1) Typical balling due to SII washer weld on land between the primary and secondary sealing surfaces

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan

Location: 198-Degree SII

SII Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and SII?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/13/92

Assessment Engineer(s)/Inspector(s): R. Briggs, G. Hyer, M. Lyon, T. Morgan

Location: 198-Degree SII

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	
Secondary O-ring Observations:			
C. Heat Affected or Eroded O-ring?		✓	
D. O-ring Defects/Damage?		✓	

Notes / Comments

Special Issues 3.2.2.1 action; evaluated SII O-rings (P/N 1U50228-47) per Section 3.4.2.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Barecht

Joint: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?	✓		①
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?		✓	
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?	✓		②
I. Metal Damage?		✓	

Notes / Comments

① Soot to primary 54-60, 150-156, 218-222 deg. Typical scalloped sooting to mid-point of bolt holes.

② Light/medium corrosion corresponding to soot pattern on mating part.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5
Large Diameter (Joint) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Joint: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/Sil and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	1
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway 41 in.-lb
Running 18 in.-lb

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Flex Bearing-to-Cowl (Joint #2)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Gareht

Joint: Nose Inlet-to-Throat (Joint #3)

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?	✓		①
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?		✓	
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?	✓		②
I. Metal Damage?		✓	

Notes / Comments

Special Issues 3.2.3.2 ② Light-medium corrosion noted on housing intermittent full circumference. No other corrosion noted. No metal damage noted.

① Soot reached the primary at 211-deg. The sooting was very light.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5
Large Diameter (Joint) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Joint: Nose Inlet-to-Throat (Joint #3)

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garrett

Location: Nose Inlet-to-Throat (Joint #3)

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway 43 in.lb
Running 19 in.lb

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Throat (Joint #3)

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/18/92

Assessment Engineer(s)/Inspector(s): Diane Garecht

Location: Nose Inlet-to-Throat (Joint #3)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 8/14/92

Assessment Engineer(s)/Inspector(s): Dean Gaerelt

Joint: Throat-to-Forward Exit Cone (Joint #4)

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?		✓	
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?		✓	
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?	✓(1)		
I. Metal Damage?		✓	

Notes / Comments

Special Issues 3.2.3.2

(1) Light [illegible] corrosion adjacent to but not in footprint. [illegible] 230-255 deg. (fwd exit cone)

Light / medium corrosion with pitting on throat seal surface @ following locations 162-200 deg

Med to heavy @ 250-251. Two mil pit was the deepest

Preliminary PFAR(s)? ✓ Yes ___ No   Preliminary PFAR Number(s): 46C-02

Clarification Form(s)? ___ Yes ✓ No   Clarification Form Page No.(s): ___

REVISION ___

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5
Large Diameter (Joint) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/14/92

Assessment Engineer(s)/Inspector(s): Deane Bassett

Joint: Throat-to-Forward Exit Cone (Joint #4)

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1
Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 8/14/92

Assessment Engineer(s)/Inspector(s): Duane Garrett

Location: Throat-to-Forward Exit Cone (Joint #4)

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway 45 in. lb
Running 25 in. lb

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 8/10/12
Assessment Engineer(s)/Inspector(s): Bennett		
Location: Throat-to-Forward Exit Cone (Joint #4)		

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6
Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 3-1-89

Assessment Engineer(s)/Inspector(s): [illegible]

Location: Throat-to-Forward Exit Cone (Joint #4)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-3
Internal Nozzle Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 17 Aug 1992
Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon		
Joint: Aft End Ring-to-Fixed Housing (Joint #5)		

Internal Nozzle Joint Observations:	Yes	No	Comment #
A. Soot To or Past O-rings?		✓	
B. Heat Affected Metal?		✓	
C. Foreign Material?		✓	
D. RTV in Contact With or Past the Primary O-ring?	✓		1
E. O-ring Damage (In Groove)?		✓	
F. Heat Affected or Eroded O-rings (In Groove)?		✓	
G. Excessive or No Grease?		✓	
H. Corrosion?	✓		2
I. Metal Damage?		✓	3

Notes / Comments

Special Issues 3.2.3.1 – No metal damage or rounded chamfers observed on bolt through hole ~~chamfer~~ spotfaces.

1- RTV in contact with primary O-ring from 150°–220° and 330° to 355°. No RTV observed past O-ring.

2 - Medium corrosion observed on the secondary seal surface (in O-ring footprint) on fixed housing at 323°. Corrosion occurred after splashdown.

- Medium to heavy corrosion observed on I.D. lip of aft end ring intermittently full circumference. Heaviest corrosion was from 160° to 0° to 100°.

3 - Several radial scratches observed across primary seal surface of fixed housing. Scratches could not be felt with 5-mil brass shim. Scratches located at 350°.

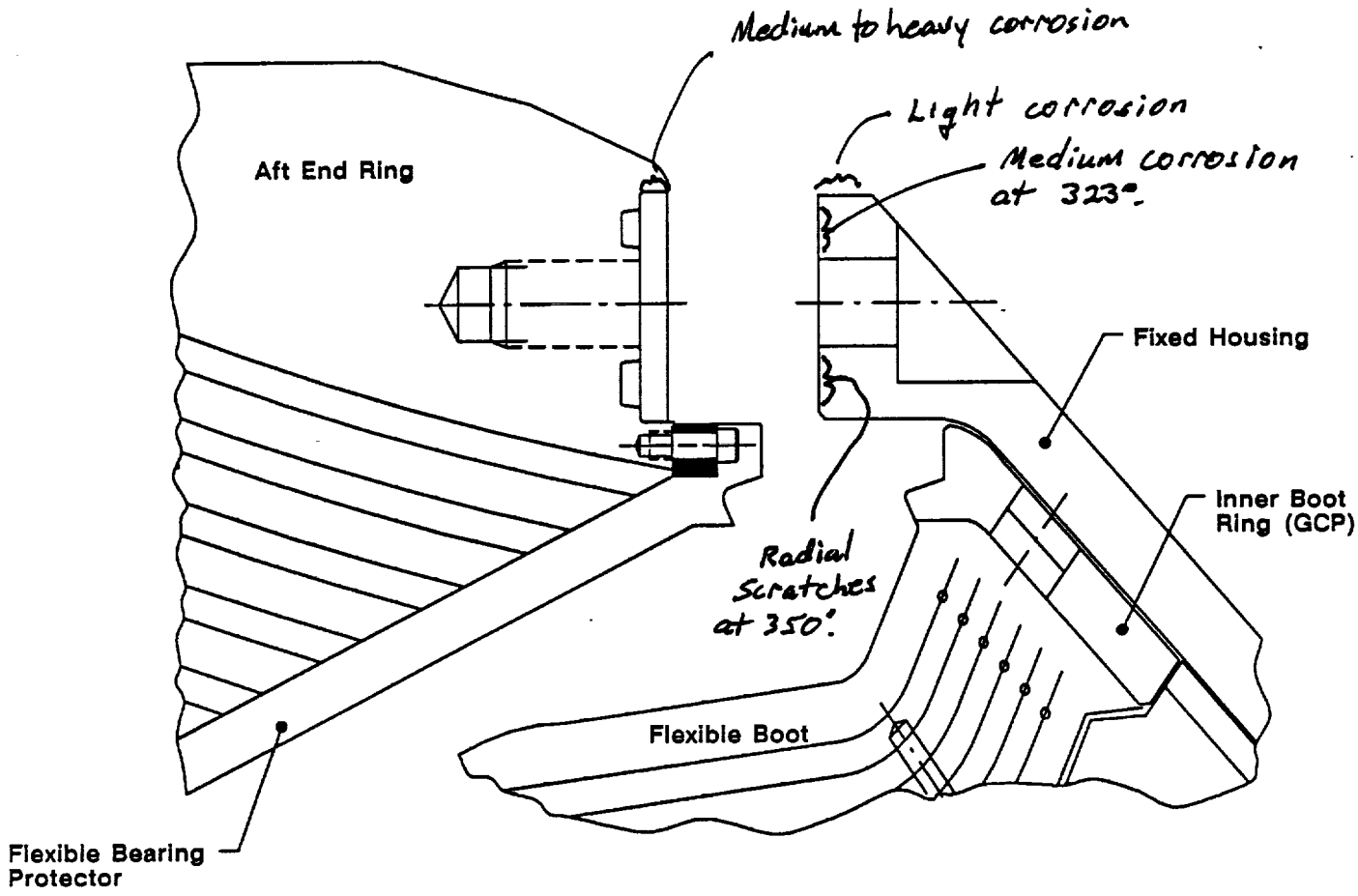
Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ✓ Yes ____ No Clarification Form Page No.(s): B-72A

Aft End Ring-to-Fixed Housing Joint (Joint #5) Clarification Form

Motor No.: 360T025	Side: ☐ Left (A) ☒ Right (B)	Date: 17 Aug 1992
Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon		

Sketch Observations Below (include locations and sizes of sketched features):



Corresponding Comment Number(s): 1,2,3

POSTFLIGHT OBSERVATION RECORD (PFOR) B-5
Large Diameter (Joint) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 17 Aug 1992

Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon

Joint: Aft End Ring-to-Fixed Housing (Joint #5)

	Yes	No	Comment #
Primary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	
Secondary O-ring Observations:			
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Damage/Defects?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-1

Leak Check Plug/SII and Port Condition (At Removal)

Motor No.: 360T025	Side: Right (B)	Date: 17 Aug 1992

Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon

Location: Aft End Ring-to-Fixed Housing (Joint #5)

Leak Check Plug Observations:	Yes	No	Comment #
A. Sooted Metal Surfaces?		✓	
B. Soot To or Past O-ring?		✓	
C. Foreign Material?		✓	
D. O-ring Damage (In Groove)?		✓	
E. Heat Affected or Eroded O-ring (In Groove)?		✓	
F. Excessive or No Grease on O-ring?		✓	
G. Excessive Grease on Plug?		✓	
H. Corrosion?		✓	
I. Thread Damage (Visible at Removal)?		✓	
Leak Check Port Observations:			
J. Sooted Metal Surfaces?		✓	
K. Foreign Material?		✓	
L. Excessive Grease?		✓	
M. Corrosion?		✓	
N. Metal Damage?		✓	
O. Heat Affected Metal?		✓	
P. Obstructed Through Hole?		✓	

Notes / Comments

Breakaway Torque = 35 in-lbs
Running Torque = 10 in-lbs.

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-4
Leak Check Plug/SII Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 17 Aug 1992

Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon

Location: Aft End Ring-to-Fixed Housing (Joint #5)

Leak Check Plug Observations:	Yes	No	Comment #
A. Foreign Material Between the O-ring and Plug?		✓	
B. Heat Affected Metal?		✓	
C. Seal Surface/Thread Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-6

Small Diameter (Leak Check Plug/SII) O-ring Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 17 Aug 1992

Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon

Location: Aft End Ring-to-Fixed Housing (Joint #5)

Secondary O-ring Observations:	Yes	No	Comment #
A. Heat Affected or Eroded O-ring?		✓	
B. O-ring Defects/Damage?		✓	

Notes / Comments

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

Thiokol CORPORATION
SPACE OPERATIONS

POSTFLIGHT OBSERVATION RECORD (PFOR) B-8
Packing With Retainer Condition (Detailed)

Motor No.: 360T025	Side: Right (B)	Date: 17 Aug 1992
Assessment Engineer(s)/Inspector(s): S. Eden, M. Lyon		
Joint: Aft End Ring-to-Fixed Housing (Joint #5)		

Packing With Retainer Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Seal or Retainer?		✓	
B. Seal or Retainer Damage/Defects?	✓		1
C. Corrosion?		✓	

Notes / Comments

Special Issues 3.2.3.1 - No metal damage or rounded chamfers observed on bolt through hold spotfaces. Typical rubber damage on P w/R.

1- Typical disassembly damage to 71 of 72 Packing with Retainer elastomers. (Rubber element)

- Thirty five of 72 Packing with Retainers had several radial scratches with raised metal and gouges in the rubber element that exceeds STW3-3780. The scratches and gouges appear to have been caused during bolt removal and/or Packing with Retainer removal from the fixed housing. (Possibility of tool used to pry Packing with Retainers out of bolt hole counterbore causing damage). ~~Squawk written~~ Preliminary PFAR written.

Preliminary PFAR(s)? ✓ Yes ___ No Preliminary PFAR Number(s): 46C-03

Clarification Form(s)? ___ Yes ✓ No Clarification Form Page No.(s): ___

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9

Case Factory Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 12-11-92

Assessment Engineer(s)/Inspector(s): H. ZAREMBA

Factory Joint: Forward Dome

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?	X		1
B. Heavy Corrosion in Joint?		X	
C. Heavy Corrosion in Leak Check Port?		X	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

#1 PRIMARY O-RING HAS WATER KNIFE DAMAGE CUT COMPLETLY AT ABOUT 30°

Preliminary PFAR(s)? ____ Yes __X__ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes __X__ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9

Case Factory Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 12-11-92
Assessment Engineer(s)/Inspector(s): H. ZAREMBA		
Factory Joint: Forward		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		X	1
B. Heavy Corrosion in Joint?		X	
C. Heavy Corrosion in Leak Check Port?		X	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

#1 PRIMARY O-RING HAS WATER KNIFE DAMAGE
CUT COMPLETLY AT ABOUT 90°

Preliminary PFAR(s)? ____ Yes X No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes X No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 3-15-93
Assessment Engineer(s)/Inspector(s): G. Rich		
Factory Joint: Forward Center		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		✓	
B. Heavy Corrosion in Joint?		✓	
C. Heavy Corrosion in Leak Check Port?		✓	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 3-1-93
Assessment Engineer(s)/Inspector(s): G. Richl		
Factory Joint: Aft Center		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		✓	
B. Heavy Corrosion in Joint?		✓	
C. Heavy Corrosion in Leak Check Port?		✓	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

Preliminary PFAR(s)? ____ Yes ✓ No Preliminary PFAR Number(s): ____

Clarification Form(s)? ____ Yes ✓ No Clarification Form Page No.(s): ____

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9

Case Factory Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 12-2-92

Assessment Engineer(s)/Inspector(s): WADE CARTON

Factory Joint: ET Attach/Stiffener

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		X	
B. Heavy Corrosion in Joint?		X	
C. Heavy Corrosion in Leak Check Port?		X	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

NO FRETTING NOTED

Preliminary PFAR(s)? ____ Yes X No Preliminary PFAR Number(s): N/A

Clarification Form(s)? ____ Yes X No Clarification Form Page No.(s): N/A

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 12-3-92
Assessment Engineer(s)/Inspector(s): WADE CARDON		
Factory Joint: Stiffener/Stiffener		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		X	
B. Heavy Corrosion In Joint?		X	
C. Heavy Corrosion in Leak Check Port?		X	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

NO FRETTING NOTED.

Preliminary PFAR(s)? ____ Yes X No Preliminary PFAR Number(s): N/A

Clarification Form(s)? ____ Yes X No Clarification Form Page No.(s): N/A

POSTFLIGHT OBSERVATION RECORD (PFOR) B-9
Case Factory Joint Condition

Motor No.: 360T025	Side: Right (B)	Date: 12-7-93
Assessment Engineer(s)/Inspector(s): WADE CARDON		
Factory Joint: Aft Dome		

Case Factory Joint Observations:	Yes	No	Comment #
A. Heat Affected or Eroded Joint O-ring?		X	
B. Heavy Corrosion in Joint?		X	
C. Heavy Corrosion in Leak Check Port?		X	

Note: Heavy corrosion is defined as corrosion that causes pitting. It may be necessary to remove corrosion to determine if pitting has occurred; however, care should be taken not to damage the hardware. A cloth dampened with solvent or green Scotch-Brite® pads may be used to remove the corrosion. Corrosion removal is to be done in a circumferential direction only.

Notes / Comments

Special Issues 3.2.1.1

NO FRETTING NOTED.

Preliminary PFAR(s)? ____ Yes X No Preliminary PFAR Number(s): N/A

Clarification Form(s)? ____ Yes X No Clarification Form Page No.(s): N/A